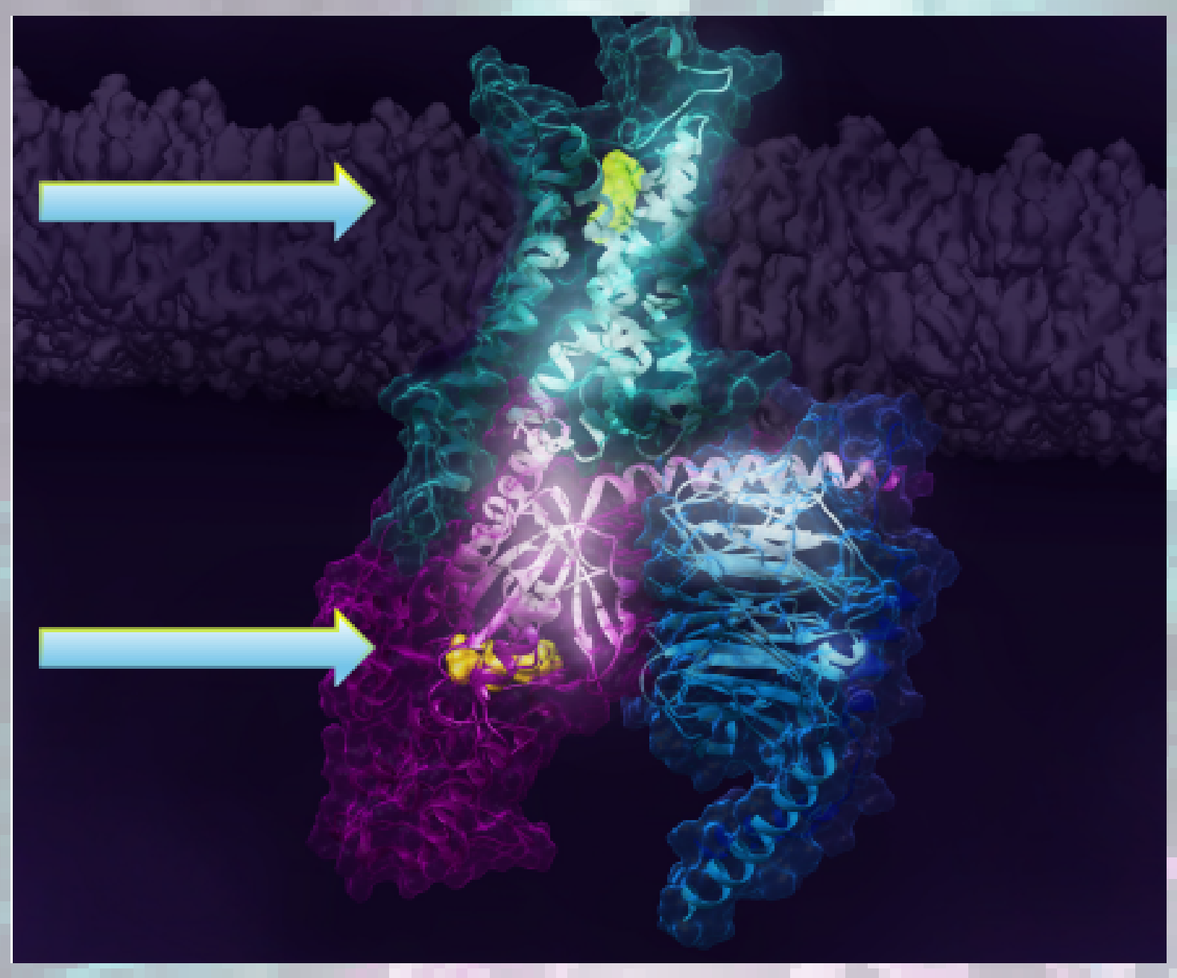
CPS Colloquium Seminar Series
Wednesday, October 22, 2025
3:15PM in CC3150



featuring
SCOTT PROSSER, PHD
Professor, Chemistry
UTM

A BABY'S EXPLANATION OF THE ROLE OF ALLOSTERY IN PROTEIN FUNCTION – OPPORTUNITIES FOR UNDERSTANDING MECHANISM OF ACTION, AND PURSUING DRUG DISCOVERY OF DYNAMIC PROTEINS

Allostery refers to the mechanism through which binding or activation at one site in a macromolecule is propagated to another distal site in the macromolecule. For example, the binding of an agonist to a receptor (top arrow) triggers a cascade of dynamic events through the protein, resulting in a conformational or dynamic event at a distal site (bottom arrow) that enables activation of a second protein in complex with the receptor. By understanding how "change" at one site in a protein is propagated, we can appreciate how enzymes spontaneously undergo transitions between specific functional states, or how a drug in an allosteric cavity of a target protein can reprogram efficacy or its capacity to engage other proteins. In this talk I will provide several examples of protein systems and show how allostery is at play to allow functional states to interconvert while enabling intervention of these pathways through "allosteric drugs".

UNIVERSITY OF TORONTO MISSISSAUGA